

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220

### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/GB2004/001270

International filing date (day/month/year)  
23.03.2004

Priority date (day/month/year)  
24.03.2003

International Patent Classification (IPC) or both national classification and IPC  
H01L51/20, H01L27/15

Applicant  
MICROEMISSIVE DISPLAYS LIMITED

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITYInternational application No.  
PCT/GB2004/001270

JC05 Rec'd PCT/PTO 23 SEP 2005

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Box No. I Basis of the opinion

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/GB2004/001270

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

|                               |             |                      |
|-------------------------------|-------------|----------------------|
| Novelty (N)                   | Yes: Claims | 2,4-7,11,18-21,27-32 |
|                               | No: Claims  | 1,3,8-10,12-17,22-26 |
| Inventive step (IS)           | Yes: Claims |                      |
|                               | No: Claims  | 1-32                 |
| Industrial applicability (IA) | Yes: Claims | 1-32                 |
|                               | No: Claims  |                      |

2. Citations and explanations

**see separate sheet**

**Re Item V.**

The following documents are referred to in this communication:

- D1 : US 2002/170175 A1 (AIGNER ROBERT ET AL) 21 November 2002
- D2a : PATENT ABSTRACTS OF JAPAN, vol. 2003, no: 04, 2 April 2003
- D2b : JP 2002 352951 A (TOHOKU PIONEER CORP), 6 December 2002
- D3 : US 2001/052752 A1 (GHOSH AMALKUMAR P ET AL) 20 December 2001

1.

Claim 27 defines an optoelectronic device in terms of method steps. It is not clear, firstly what special device feature (structural features) would be imparted by the previous method claims. Furthermore, the formulation of a device in terms of method steps also throws doubt as to the category of the claim (process or device) which thereby renders the claim unclear, contrary to requirements of Article 6 PCT.

2.

2.1

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1,3,8-10,12-17 and 22-26 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document):

A method of forming a semiconductor device comprising:

- providing a semiconductor substrate (paragraph 22) comprising circuitry and terminal means for establishing electrical connection to circuitry (paragraphs 6-9)
- providing a sheet for forming a further layer of the device, the sheet comprising at least one groove (figure 1, paragraph 51-54)
- applying adhesive to at least one of said substrate and said sheet (paragraph 23)
- aligning said substrate and said sheet in a position such that said at least one groove faces said terminal means (paragraph 19)
- attaching said substrate and said sheet together by means of said adhesive in said position (paragraph 23)

Moreover, document D1 describes all additional features of claims 3 (figure 9), 8 (see figures 1-3, paragraphs 51-54), 9 (figures 9, 10), 10 (paragraph 33), 12 (paragraph 33), 13 (figures 1-3), 14 (paragraph 51), 15 (figure 9).

Document D1 discloses all features of claims 1,3,8-10,12-15, therefore the subject-matter of these claims is not new in the sense of Article 33(2) PCT.

The same reasoning can be applied to the corresponding independent product claim 16 and its dependant claims 17, 22-26.

Therefore, the subject-matter of these claims are also considered not new.

3.

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claims 2, 4-7, 11, 18-21 and 27-32 does not involve an inventive step in the sense of Article 33(3)PCT.

3.1

The subject-matter of claim 4 differs from D1 in that the method is applied to organic light emitting diodes.

D1 discloses a method for encapsulating devices, i.e micromechanical structures, which need to be protected from environmental influences ( see paragraph 5). It is however clear for the skilled person that this method can be generalized and applied to any semiconductor devices sensitive to environmental influences, e.g OLEDs. As can be seen from D2a-b, encapsulated OLED structures are produced in a similar way as described by D1. D2a-b describe a method of attaching a wafer to a sealing component and subsequently dicing the structure in individual OLED components at groove positions (see figure 1). Consequently, the subject-matter of claim 4 is an obvious application of the method disclosed by D1.

Thus, the subject-matter of this claim does not involve an inventive step in the sense of Article 33(3) PCT.

3.2

The subject-matter of claims 2, 5 and 6 are disclosed in D2b, consequently for the same reasons as paragraph 3.1, the subject-matter of these claims lacks an inventive step.

3.3

The subject-matter of claim 7 refers to an obvious design possibility for organic light emitting devices, see for instance document D3. Therefore, the subject-matter of this claim also appears to lack an inventive step.

3.4

The same reasoning can be applied to the corresponding product claims 18-21 and 27-32. Therefore, the subject-matter of these claims does not involve an inventive step.

**3.5**

The subject-matter of claim 11 differs from D1 in that the adhesive is applied to the entire surface of the sheet. However, this feature refers to one of the possibilities to bond two substrates, from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill. Therefore, the subject-matter of this claim does not involve an inventive step.